In the Claims

1. (Withdrawn and Previously presented) A method of modulating calvarial osteoblast differentiation and mineralization in a human being, said method comprising:

altering expression or activity of Nell-1, in the human being, wherein increased expression or activity of Nell-1 increases osteoblast differentiation or mineralization and decreased expression or activity of Nell-1 decreases osteoblast differentiation or mineralization in the human being.

2. (Withdrawn and Previously presented) The method of claim 1, wherein Nell-1 expression or activity is inhibited by a method selected from the group consisting of an anti-Nell-1 antisense molecule, a Nell-1 specific riibozyme, a Nell-1 specific catalytic DNA, a Nell-1specific RNAi, anti-Nell-1 intrabodies, and gene therapy approaches that knock out Nell-1 in target cells and/or tissues.

3. (Withdrawn) The method of claim 1, wherein Nell-1 expression or activity is increased by a method selected from the group consisting of transfecting a cell with an exogenous nucleic acid expressing Nell-1, and transfecting a cell with a Nell-1 protein.

4. (Withdrawn and Previously presented) The method of claim 2, wherein said Nell-1expression or activity is inhibited in the human, and

wherein the human being is experiencing abnormal cranial suture development.

5. (Withdrawn and Previously presented) The method of claim 4, wherein said abnormal cranial suture development comprises craniosynostosis (CS).

6. (Withdrawn and Previously presented) A method of facilitating latent TGF-ß1 activation in a human being, said method comprising administering exogenous Nell-1 to said human being, or increasing expression activity of endogenous Nell-1 in the human being.

7. (Withdrawn and Previously presented) A method of activating or sequestering a member of the TGFß superfamily in a human being, said method comprising administering exogenous Nell-1 to said human being, or increasing expression activity of endogenous Nell-1 in the human being.

8-22. (Canceled)

23. (Withdrawn and Previously presented) A method of altering Nell-1 expression in a human cell, said method comprising altering the expression or activity of *Msx2* and/or *Cafa1* in the human cell.

24. (Withdrawn and Previously presented) The method of claim 23, comprising upregulating *Cbfa1* expression or activity in the human cell to upregulate Nell-1 expression or activity.

25. (Withdrawn and Previously presented) The method of claim 23, comprising upregulating Msx2 expression or activity in the human cell to downregulate Nell-1 expression or activity.

26. (Withdrawn and Previously presented) A method of screening for an agent that modulates Nell-1 expression or activity in a human being, said method comprising:

contacting a test cell which is a human cell containing a *Cbfa1* and/or an *Msx2* gene with a test agent; and

detecting a change in the expression level of an *Cbfa1* and/or an *Msx2* gene or the activity of Cbfa1 and/or an Msx2 in said test cell as compared to the expression of the *Cbfa1* and/or an *Msx2* gene or the activity of Cbfa1 and/or an Msx2 in a control cell where a difference in the expression level of *Cbfa1* and/or an *Msx2* or the activity of Cbfa1 and/or an Msx2 in the test cell and the control cell indicates that said agent modulates Nell-1 expression or activity.

27. (Withdrawn) The method of claim 26, wherein said control is a negative control cell contacted with said test agent at a lower concentration than said test cell.

28. (Withdrawn) The method of claim 27, where said lower concentration is the absence of said test agent.

29. (Withdrawn) The method of claim 26, wherein said control is a positive control cell contacted with said test agent at a higher concentration than said test cell.

30. (Withdrawn and Previously presented) The method of claim 26, further comprising recording test agents that alter expression of *Cbfa1* and/or an *Msx2* gene or the activity of Cbfa1 and/or an Msx2 in a database of modulators of Nell-1 activity or in a database of modulators of bone mineralization.

31. (Withdrawn and Previously presented) The method of claim 26, wherein the expression level of Nell-1 is detected by measuring the level of *Cbfa1* and/or an *Msx2* mRNA in said cell.

32. (Withdrawn and Previously presented) The method of claim 31 , wherein said level of *Cbfa1* and/or an *Msx2* mRNA is measured by hybridizing said mRNA to a probe that specifically hybridizes to a *Cbfal* and/or an Msx2 nucleic acid.

33. (Withdrawn) The method of claim 32, wherein said hybridizing is according to a method selected from the group consisting of a Northern blot, a Southern blot using DNA derived from the *Cbfa1* and/or *Msx2* RNA, an array hybridization, an affinity chromatography, and an in situ hybridization.

34. (Withdrawn) The method of claim 33, wherein said probe is a member of a plurality of probes that forms an array of probes.

35 . (Withdrawn and Previously presented) The method of claim 31, wherein said level of *Cbfa1* and/or *Msx2* RNA is measured using a nucleic acid amplification reaction.

36. (Withdrawn) The method of claim 26, wherein said level of *Cbfa1* and/or *Msx2* is detected by determining the expression level of a *Cbfa1* and/or *Msx2* protein in said biological sample.

37. (Withdrawn) The method of claim 36, wherein said detecting is via a method selected from the group consisting of capillary electrophoresis, a Western blot, massspectroscopy, ELISA, immunochromatography, and immunohistochemistry.

38. (Withdrawn) The method of claim 26, wherein said cell is cultured *ex vivo*.

39. (Withdrawn) The method of claim 26, wherein said test agent is not an antibody.

40. (Withdrawn) The method of claim 26, wherein said test agent is not a protein.

41. (Currently amended) A pharmaceutical formulation, comprising:

one or more active agents in an amount effective for increasing osteoblast differentiation ~~or mineralization~~ in a human being selected from the group consisting of a nucleic acid encoding a Nell-1 protein, a Nell-1 protein, and an agent that alters expression or activity of a Nell-1 protein; and

a pharmaceutically acceptable excipient.

42. (New) The formulation of claim 41, wherein the agent that alters expression or activity of a Nell-1 protein is an antibody to the Nell-1 protein.

43. (New) The formulation of claim 41, further comprising a cell adhesion molecule.

44. (New) The formulation of claim 41, wherein the pharmaceutically acceptable carrier comprises a biodegradable porous delivery vehecle.

45. (New) The formulation of claim 41, wherein the pharmaceutically acceptable excipient comprises a carrier resistant to acidic or enzymatic hydrolysis.

46. (New) The formulation of claim 41, wherein the pharmaceutically acceptable excipient comprises a protein encapsulating carrier.

47. (New) The formulation of claim 41, wherein the pharmaceutically acceptable excipient comprises a liposome.

48. (New) The formulation of claim 41, which is a bone graft material.

49. (New) The formulation of claim 48, further comprising a bone morphogenic protein.

50. (New) The formulation of claim 48, wherein the bone graft material comprises a polymer, a ceramic material, a bioglass, or combinations thereof.

51. (New) The formulation of claim 48, wherein the bone graft material comprises reconstituted collagen, demineralized bone particles, demineralized bone matrix, mineralized bone matrix, or combinations thereof.

52. (New) The formulation of claim 41, comprising from about 1 μg to about 10000 μg Nell-1 protein per mL carrier.

53. (New) The formulation of claim 41, wherein the formulation comprises a unit dosage form for a mode of administration selected from intravenous injection, parenteral injection, topical administration, oral administration, or local administration.

54. (New) The formulation of claim 53, comprising a unit dosage form selected from powder, tablet, pill, capsule, and lozenge.